

## RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte ULRICH SESEKE-KOYRO,  
ANDREAS BECKER,  
And JOACHIM FREHSE

Appeal 2007-0501  
Application 10/747,956  
Technology Center 1700

Oral Hearing Held: March 6, 2007

Before CHUNG K. PAK, CHARLES F. WARREN, and  
CATHERINE Q. TIMM,  
Administrative Patent Judges

ON BEHALF OF THE APPELLANT:

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1        The above-entitled matter came on for hearing on Tuesday, March 6,  
2 2007, commencing 217 pm, at The U.S. Patent and Trademark Office, 600  
3 Dulany Street, Alexandria, Virginia, before Cindy L. Sebo, Notary Public.

4            JUDGE PAK: Good afternoon, Mr. Evans. We have a court  
5 reporter today, Cindy Sebo. She's going to transcribe everything you say  
6 during this hearing.

7            You may want to introduce your colleague.

8            MR. EVANS: Yes. My name is J. D. Evans. I'm an attorney  
9 representing the appellants in this case. And with me is Dr. Michael Russell,  
10 who is an associate at our firm and who was of assistance in preparing the  
11 briefs.

12           JUDGE PAK: Welcome.

13           MR. RUSSELL: Thank you for the opportunity to be here.

14           JUDGE PAK: As you know, you have 20 minutes to argue this  
15 case. And you may assume that we know the subject matter, so you may  
16 want to focus on the dispositive issue. And you may start any time you  
17 wish.

18           MR. EVANS: Well, thank you very much --

19           JUDGE WARREN: Before you start, Counsel, there is a  
20 procedural matter.

21           The examiner originally relied on WO 99/48641, and you have  
22 stated that it's equivalent to United States Patent 6,432,221.

23           MR. EVANS: That is correct, Your Honor.

24           JUDGE WARREN: We will refer to this particular United States  
25 patent as being equivalent to the WO '641 document.

1                   MR. EVANS: We have no objection to that, Your Honor,  
2 because they are, in fact --

3                   JUDGE WARREN: Thank you.

4                   MR. EVANS: As you know, this case relates to certain potassium  
5 fluorozincate fluxes, which are unique by the process of their preparation  
6 and by the resulting particle size which results from the different processes  
7 and preparations which are used.

8                   Actually, three different products are being claimed: a very fine  
9 product with an average -- the particle size where 50 percent of the particles  
10 have an average diameter -- have a diameter less than 5 micrometers; a  
11 medium product in which 50 percent of the particles have a particle diameter  
12 of less than 11 micrometers; and a coarse product, which 50 percent of the  
13 particles have a diameter greater than the 11 micrometers.

14                  These vary by the method in which they are made, basically on  
15 the order of ingredients and the specific ingredients which are used to  
16 make them.

17                  The examiner has cited two primary references, each of which  
18 shows that potassium fluorozincate fluxes materials were known. And we  
19 don't claim that these are the very first potassium fluorozincate fluxes ever  
20 produced, but these are unique by their method of production and  
21 their particle size distribution.

22                  The examiner -- the primary references cited by the examiner do  
23 not provide any information regarding the particle size of the  
24 potassium fluorozincate fluxes which are described therein; they simply are  
25 silent on the point.

1           To deal with the particle size limitations of the claims, the  
2 examiner then draws on secondary references which do not deal with  
3 potassium fluorozincate fluxes. Instead, they deal with potassium  
4 fluoroaluminate fluxes and they do disclose particle size information for  
5 those potassium fluoroaluminate fluxes.

6           Our position is simply that a person of ordinary skill in the art  
7 would not consider the teaching relating to one material as applicable to  
8 another different material and that he would not look to these references at  
9 all for guidance on particle sizes.

10           We believe that it's --

11           JUDGE WARREN: Counsel, would you be of the same opinion  
12 if the primary references described mixtures of your fluorozincate and  
13 fluoroaluminates?

14           MR. EVANS: The -- it is possible to use the fluxes in mixture  
15 and, in fact, I do believe that the primary references made mention  
16 that possibility, Mr. Warren. But that does not mean that one would take the  
17 same particle size, even in such a mixture. It might be mixtures of  
18 two different materials with two vastly different particle sizes.

19           JUDGE WARREN: How about the fact that -- I think the  
20 primary references say that you can spray these materials?

21           MR. EVANS: Yes, Your Honor, but you can spray materials  
22 with a very wide variety of particle sizes ranging up to 100 micrometers in  
23 diameter; they will still spray. So that's certainly -- the fact that the  
24 materials are sprayable doesn't -- it doesn't provide definitive  
25 information on the particle size ranges which are claimed in these claims --

1                   JUDGE WARREN: Even though it's used in the same type of  
2 brazing process?

3                   MR. EVANS: It's not the same type of brazing process if it's not  
4 using the same flux, Your Honor. It is a different one and there are  
5 very different attributes of the fluxes which may affect their usability besides  
6 particle size.

7                   JUDGE WARREN: Counselor, perhaps you can look at both the  
8 primary references, Columns 1 and 2 of both, where they quite clearly teach  
9 the applicability of mixtures that have both the fluorozincate and the  
10 fluoroaluminate in them, and it doesn't really matter how much of either one  
11 of those two compounds is present in the mixture.

12                  MR. EVANS: Yes, Your Honor, we acknowledge -- in fact, I  
13 think I just said that I believe the references did acknowledge the  
14 possibility of using them in combination, but what the references don't teach  
15 is the particle sizes of the individual ingredients of such a mixture.

16                  We don't know if the particle sizes of those two components are  
17 the same or if they differ vastly from each other, if they are large or if they  
18 are small.

19                  The reference doesn't provide any dispositive information about  
20 particle size, even though it does talk about a mixture.

21                  JUDGE WARREN: So I take it, in your view, then, that the  
22 disclosure of the aluminum -- fluoroaluminate in these mixtures wouldn't  
23 direct one of ordinary skill in the art to process those particular mixtures in  
24 the same manner as suggested by the secondary mixture?

1                   MR. EVANS: I don't think it tells you anything about the  
2 particle size of the potassium fluorozincate component of the mixture. Even  
3 if you would decide to use the potassium fluoroaluminate component of the  
4 mixture with the particle size according to the prior art in the secondary  
5 references, you still would be left not knowing what size of particle to use  
6 for the potassium fluorozincate.

7                   And you cannot simply assume that the two components would  
8 use the same particle size, because there are many other factors of the  
9 materials which can affect their usability, such as their density, because of  
10 their surface -- surface wettability, their particle – particle interactions, dipole  
11 moments, things like that. All of those things would have an effect on their  
12 usefulness besides their particle size.

13                   JUDGE WARREN: And that's pointed out in the references?

14                   MR. EVANS: It's not pointed out in the references, that is  
15 knowledge of persons skilled in the art that particle size alone is not  
16 dispositive.

17                   JUDGE WARREN: Is there any reference in the record with  
18 respect to what you're now discussing?

19                   MR. EVANS: No, Your Honor, except for the discussion which  
20 is taking place during prosecution.

21                   JUDGE PAK: Well, Counsel, what's the reason you guys are  
22 claiming these particular sizes? Is there any particular function involved?

23                   MR. EVANS: Particularly with the smaller sizes, they work  
24 better in a liquid suspension application method, and they're  
25 especially suited for a liquid suspension application method, Your Honor.

1           This is, in fact, a unique product which the client has been able to  
2 market because of its uniqueness. The prior art has not produced, to our  
3  
4 knowledge, potassium fluorozincate fluxes with this very small particle  
5 size that they're selling.

6           JUDGE WARREN: Let me ask you a question, then. Are you  
7 saying that there are -- since the secondary references have to do with the  
8 applicability of -- of fluxes with respect to liquid systems -- I'm afraid I still  
9 don't understand your distinction.

10          MR. EVANS: The secondary references have to do with the  
11 particle size of potassium fluoroaluminate fluxes in liquid systems. They  
12 don't have anything to do with the particle size of any other type of flux in a  
13 liquid system.

14          It's not simply a correlation between size and liquid; it is a  
15 correlation between size and material and liquid, Your Honor. And the  
16 material cannot be left out of consideration.

17          The size which is appropriate for one material in one -- in a liquid  
18 system may not be the appropriate size for another material in that  
19 same liquid. One cannot simply assume that it would be.

20          JUDGE PAK: But, Counsel, is that the reason why you're  
21 claiming three different particle sizes: One being fine; the second one  
22 being, I guess, the medium fine; and the third one being coarse?

23          MR. EVANS: The reason for the three different particle sizes is  
24 because the three different products have different utility.

1           The very fine product is of primary utility in liquid application  
2 systems, the very large product is a primary applicability in dry  
3 application systems, and the intermediate product can be used in either type  
4 of system. It's kind of a dual hitter or a switch hitter, if you will.  
5 And sometimes the industry wants one and sometimes the industry wants  
6 one, but that's why three different products are produced and being claimed.

7           JUDGE PAK: So the size appears to be, from your own  
8 perspective, a function of the application, right? That's what -- that's what  
9 you just said, didn't you, the size is the function of the application utility,  
10 that is?

11           MR. EVANS: The size for this material is the function of the  
12 application, that's correct. It affects the application, but that does not mean  
13 that the application determines -- determines the size for any other material  
14 from the teaching of this material.

15           You wouldn't know about the proper size for any other flux based  
16 on knowing the proper size for this flux because it really does depend on the  
17 material, Your Honors.

18           JUDGE WARREN: Well, then, Counselor, we'll shift to  
19 something else.

20           If you look at U.S. '221 patent in Example 1, perhaps you can  
21 explain to us the difference between the process set forth in that example and  
22 the process in your Claim 12. You have zinc oxide mixed with hydrogen  
23 flouride and they react, and then to that is added aqueous potassium fluoride  
24 and hydroflouric acid, which is an alkali metal fluoride.

1           According to your brief, the material has a grain spectrum based  
2   on what is reacted, and you really have no limitation on the amounts of  
3   materials in your claim that need to be reacted. It would seem, in Example 1  
4   of the U.S. '221 patent, it falls right within your claim.

5

6           MR. EVANS: Your Honor, it does appear that that procedure  
7   follows the procedure outlined in the claim. I would need to take a -- if you  
8   could give me just a moment, I would like to just look carefully at the claim,  
9   but I think that you may be correct.

10           JUDGE WARREN: While you're at it, Counselor, if you look at  
11   Example 2 and compare that with your Claim 8.

12           MR. EVANS: Example 2 does not conform to the process that's  
13   described in Claim 8 because Claim 8 requires the alkali metal hydroxide to  
14   be mixed with zinc oxide, and then that mixture to have hydrogen fluoride  
15   added. And that does not appear to me to be the procedure which is  
16   followed in Example 2 in which the cesium hydroxide reacted with the  
17   hydroflouric acid and then that subsequently reacted with zinc oxide. So  
18   that's a different procedure.

19           JUDGE WARREN: I think you're correct, there, Counselor, but  
20   I believe the reference also teaches that you can combine a hydroxide and a  
21   zinc oxide with hydrogen fluoride, which is probably what you -- which is  
22   probably the sum of the processes that you would get at Column 5,  
23   roughly Lines 42 to 51.

24           MR. EVANS: You're looking at the '221 patent.

25           JUDGE WARREN: I beg your pardon.

1                   MR. EVANS: I'm sorry. You're looking at the '221 patent in  
2 Column 5 --

3                   JUDGE WARREN: Column 5 --

4                   MR. EVANS: -- beginning at Line 22?

5

6

7                   JUDGE WARREN: At 42, alternatively it is possible to work in  
8 an aqueous system, and it provides different materials there within  
9 hydroxides, I believe.

10                  So it would seem that in addition to Example 1, there are some  
11 other teachings in the reference which, if you put them together, may  
12 provide your different sequences of reactants in your claim methods.

13                  MR. EVANS: I mean, this certainly does seem to disclose an  
14 alternative sequence, but I don't believe that the sequence disclosed here  
15 is the sequence which is claimed in Claim 8, Your Honor. I'd would have to  
16 sit down and make a careful comparison at some point. But in my reading  
17 of that, I don't believe that corresponds with the sequence in Claim 8. And  
18 consequently, although it is an alternative to the first sequence disclosed in  
19 the patent, it is not the claimed sequence here.

20                  JUDGE WARREN: And how about 12? Do you think 12 would  
21 fit with Example 1?

22                  MR. EVANS: With 12 and Example 1, Your Honor, I'm afraid I  
23 cannot see any distinction.

24                  JUDGE PAK: Counsel, going back to a previous argument, you  
25 stated that the -- one of ordinary skill in the art would not correlate the

1 aluminate fluxing agent, the size of a, I guess, aluminate fluxing agent to the  
2 size of these fluorozincate fluxing agent.

3 MR. EVANS: That is our position, Your Honor.

4 JUDGE PAK: Your argument is that the -- one of ordinary skill  
5 in the art would know that the different materials require different  
6 particle sizes for given -- given applications; am I correct --

7 MR. EVANS: That's -- that's --

8 JUDGE PAK: -- and therefore, that you cannot assume -- or one  
9 of ordinary skill in the art cannot assume that the aluminate fluxing agent  
10 size is appropriate for the size of the fluorozincate?

11 MR. EVANS: Certainly, he would not be able to simply assume  
12 that the size for one material would be automatically applicable to all  
13 other potential materials. That's correct, Your Honor.

14 JUDGE PAK: So in order to determine the applicability, then,  
15 one of ordinary skill in the art would have to do some routine  
16 experimentation or -- depending on the utility and determine appropriate  
17 optimum sizes for the given application; am I correct?

18 MR. EVANS: I think that --

19 JUDGE PAK: If we cannot assume --

20 MR. EVANS: -- it's a routine matter in the art to determine  
21 optimums of known result effective variables, but the point is, Your Honor,  
22 one cannot simply, based on these references, make the transfer. One would  
23 not have a reasonable expectation of success just looking at the references.

1           One would have to do some corroborative work in order to decide  
2 whether or not they could make the transfer. And that is not obviousness.  
3 That's obvious to try, obvious to experiment, but not obvious.

4           JUDGE PAK: In flux -- in applying fluxing agent, is size  
5 important at all? When you use fluxing agent for a given application, any  
6 given application, would size be one of the considerations that you would  
7 consider?

8           MR. EVANS: I would expect so, Your Honor, but I have no  
9 firsthand, personal knowledge of that.

10  
11           JUDGE PAK: Any questions?

12           JUDGE TIMM: No questions.

13           JUDGE WARREN: I have no other questions.

14           MR. EVANS: Just to quickly summarize, then, we do not believe  
15 that you can automatically assume that the size taught for one material is  
16 applicable to a different material. Therefore, we believe that the references  
17 do not make out a proper *prima facie* case of obviousness.

18           They may motivate someone to experiment in order to find out  
19 the proper size, but they don't teach him the proper size. And that teaching  
20 would be necessary for a proper case of obviousness; therefore, we believe  
21 the rejection is faulty and should be reversed.

22           JUDGE PAK: Thank you for coming.

23           MR. EVANS: Thank you very much, Your Honors.

24           MR. RUSSELL: Thank you for the opportunity to be here.

25           MR. EVANS: Excuse me. Off the record.

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(Whereupon, at 1:47 p.m., the hearing was concluded.)